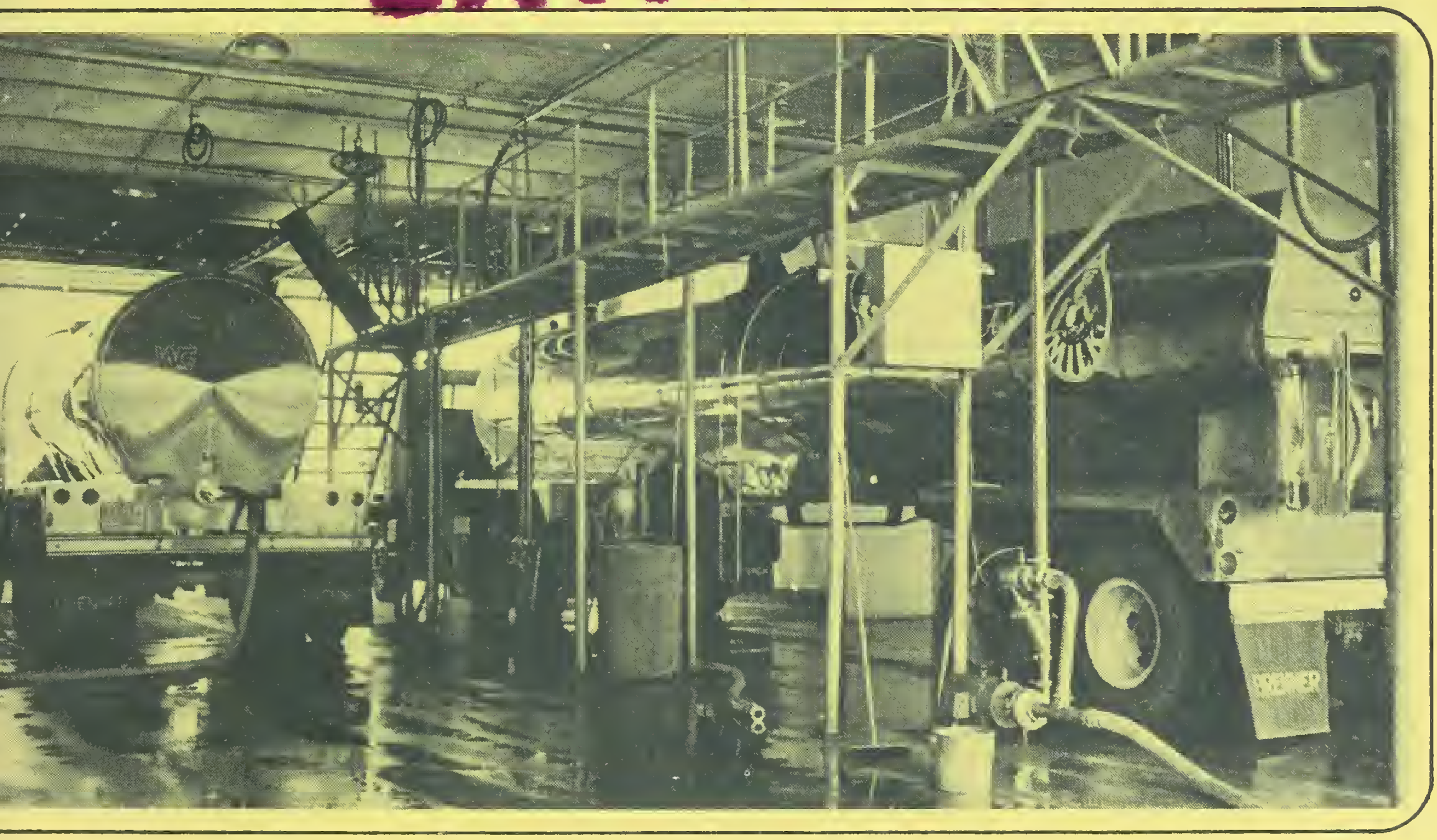
MARKETING OPERATIONS OF DAIRY COOPERATIVES



U.S.
DEPARTMENT
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FARMER
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PREFACE

Information for the study came from a mail questionnaire returned by 453 cooperatives. These 453 respondent cooperatives represent 77 percent of the 592 cooperatives included in the study. Estimates for the remaining 23 percent of the cooperatives were developed from operating statements or other data, mainly supplied by these cooperatives in our annual survey of farmer cooperatives.

The 1973 data were for the cooperatives' last fiscal year ending before April 1, 1974. In 1957 and 1964, data were obtained for those fiscal years for each cooperative. Because cooperatives have different fiscal years, their data reflect some differences in time periods. But by using annual data, the effect of variations between cooperatives because of different time periods is reduced.

FCS Research Report 38 June 1977

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HIGHLIGHTS

During 1973 dairy products accounted for more than one-fourth of the value of all agricultural cooperative marketings. During this time, dairy cooperatives received or bargained for more than three-fourths of all milk sold by farmers to the Nation's plants and dealers.

Number of dairy cooperatives declined 52 percent—from 1,244 to 592 between 1964 and 1973. In 1973, 291 cooperatives were processing and manufacturing dairy products—down from 856 in 1964. The number of cooperatives selling raw whole milk fell from 730 to 458 in this period.

Cooperatives' share of total volume sold by farmers to plants and dealers rose to 76 percent in 1973, for a total of 83 billion pounds. While the volume of milk marketed by cooperatives increased nationally, cooperative volume declined in the Middle Atlantic and New England Regions. Cooperatives marketed 81 percent of the Nation's grade A and 55 percent of the manufacturing grade milk. About 69 percent of total cooperative volume including intercooperative sales was sold as raw whole milk.

About 40 percent of cooperatives' total producer receipts was shipped less than 25 miles to the plant of first receipt. Another 44 percent was shipped 25 to 75 miles away and 16 percent beyond 75 miles.

Contracts between cooperatives and haulers were reported by 48 percent of cooperatives providing information on trucking arrangements. While 45 percent of these cooperatives also operated their own trucks, they hauled only 21 percent of the total cooperative milk supply.

Dairy cooperatives owned 894 plants in 1973. They used 419 of these plants only as milk receiving stations. Cheesemaking was the most frequently performed manufacturing activity with 177 operations reported. Other major operations included 170 plants making butter, 105 making nonfat dry milk, and 142 packaging fluid products. These 894 plants handled just under one-half

of the total volume marketed by cooperatives.

Cooperatives' net sales of butter and dry milk products (nonfat dry milk, dry buttermilk, and dry whole milk) declined from 1964 to 1973 yet their share of national production rose to 66 percent for butter and 85 percent of national dry milk products. Co-op sales of natural cheese rose from 366 million pounds in 1964 to 926 million pounds in 1973, or 35 percent of total U.S. production. Sales of packaged fluid milk grew from 4.8 billion to 6.7 billion pounds—an increase from 9 to 12 percent of U.S. milk bottling. For cottage cheese and ice cream, co-op sales as a percentage of national production continues to be low—13 percent and 5 percent, respectively. Mix for ice cream and other frozen products was marketed primarily by cooperatives—73 percent of U.S. production. Cooperative dry whey sales in 1973 accounted for 56 percent of national production.

While most dairy cooperatives remain relatively small business organizations, an increasing amount of dairy products is sold through cooperatives of a more viable size. For example, in 1973, cooperatives of the following size groups marketed these indicated percentages of the total cooperative volume of selected products: Butter, 5 million pounds or more, 84 percent; dry milk products, 10 million pounds or more, 86 percent; natural cheese, 5 million pounds or more, 82 percent; packaged fluid milk, 40 million quarts or more, 77 percent; cottage cheese, 5 million pounds or more, 64 percent; and ice cream, 2 million gallons or more, 71 percent.

Nearly all dairy products distributed by dairy cooperatives were sold to wholesale outlets.

Cooperatives distributing branded products have used more private labels, and generally distributed more products under private labels than under their cooperative labels. However, small volume cooperatives have tended to distribute more of their products under their own labels than large volume cooperatives.

Flav-O-Rich is a cooperative brand widely distributed in the southeast by Dairymen, Inc., Louisville, Kentucky.

MARKETING OPERATIONS OF DAIRY COOPERATIVES

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Agricultural Economists

Dairy cooperatives are shrinking in number but expanding the volume of milk marketed, paralleling the trend industrywide to fewer and larger firms.

Recent and current technological changes and developments in the dairy industry, such as bulk milk assembly, continuous butter churns, automated cheesemaking systems, high-speed and automated packaging and distribution systems have caused changes in the structure of the dairy industry. Generally, both dairy firms and their plants have had to become larger.

This report provides information on dairy cooperatives' scope and performance in marketing farmers' milk in the changing environment.

COOPERATIVE INDUSTRY PROFILE

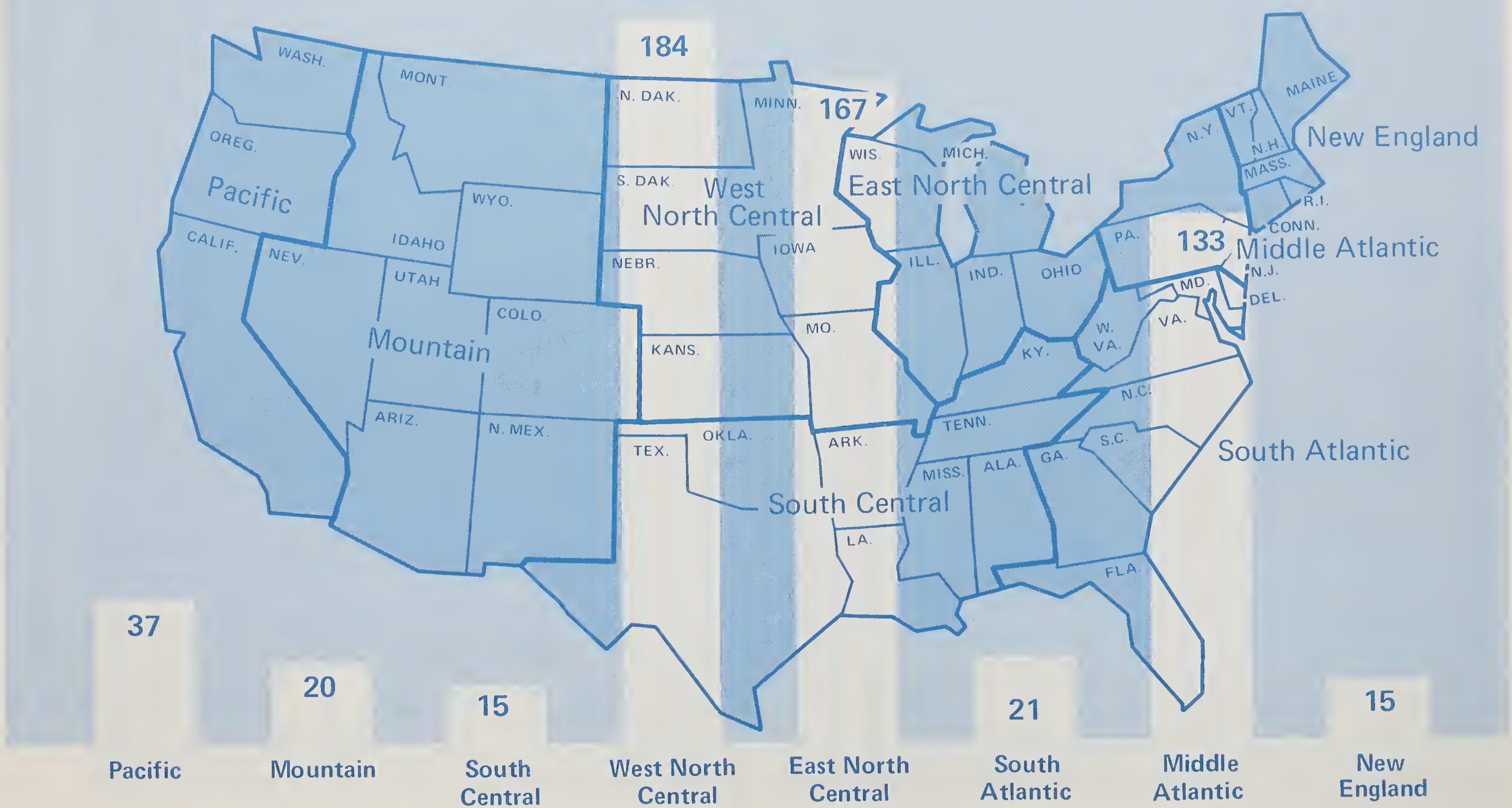
Between 1964 and 1973, the number of dairy cooperatives declined 52 percent—from 1,244 to 592. In 1973, more than 80 percent of all dairy cooperatives were in three regions—West North Central, East North Central, and Middle Atlantic (table 1 and fig. 1).

Greatest reduction occurred in the West North Central Region where the number dropped from 564 to 184, a 67-percent decline. Smallest reduction was in the Middle Atlantic Region where the number declined only 19 percent—from 165 to 133.

In 1964, 856 cooperatives were processing and manufacturing dairy products—69 percent of all dairy cooperatives. By 1973, the number had dropped to 291, or only 49 percent of all dairy cooperatives. Almost two-thirds of this decline occurred in the West North Central Region.

Although cooperatives operating only milk and cream receiving facilities declined from 169 to 130, this represents an

Figure 1 — Number of dairy cooperatives by geographic regions, 1973 (based on headquarters location)



increase from 13 percent to 22 percent of all dairy cooperatives. About three-fourths of these cooperatives were in the West North Central Region, where the number increased from 91 in 1964 to 97 in 1973.

More than 60 percent of the 171 cooperatives that did not physically handle milk and other dairy products in 1973 were in the Middle Atlantic Region. This group of cooperatives, as a proportion of all U.S. dairy cooperatives, increased from 18 percent in 1964 to 29 percent in 1973. The group's proportion in the Pacific Region increased from 6 percent to 12 percent, while in all other regions the proportion declined.

The decline in number of dairy cooperatives between 1964 and 1973 resulted in fewer cooperatives marketing selected major dairy products (table 2). Except in marketing bulk cream, there was no increase in number of cooperatives marketing any of these products in any region.

More cooperatives sold raw whole milk in bulk than any other product. Even though the number selling raw whole milk declined from 730 to 458, the proportion of dairy cooperatives performing this activity increased from 59 percent to 77 percent.

Among the dairy product marketing activities surveyed, the distribution of butter declined most of all. Between 1964 and 1973 the number distributing butter decreased from 740 to 207, a reduction of 72 percent. As a proportion of all dairy cooperatives the number marketing butter declined from 59 percent to 35 percent.

Cooperatives distributing nonfat dry milk decreased from 212 in 1964 to 57 in 1973, a decline of 73 percent. In the West North Central Region, the decline was 87 percent—from 105 to 14.

Although the number of cooperatives marketing natural cheese decreased from 294 to 187, their percentage of all dairy cooperatives increased from 24 percent in 1964 to 32 percent in 1973.

Cooperatives distributing packaged fluid milk decreased 60 percent, from 215 to 85. In the West North Central Region, these cooperatives decreased 81 percent, from 84 to 16.

MILK RECEIPTS AND UTILIZATION

Cooperatives in 1973 received or bargained for 83 billion pounds of milk or about 76 percent of total volume sold by farm-

Figure 2 — Total milk sold to plants and dealers and cooperatives' share of total by geographic regions, 1973 (Billion Pounds).

Region based on location of cooperatives' headquarters.

ers to the Nation's plants and dealers (table 3). Cooperatives' share of this volume increased 8 percent between 1957 and 1964 and 9 percent from 1964 to 1973. The volume marketed by cooperatives increased 32 percent between 1957 and 1964, and 8 percent between 1964 and 1973.

Figure 2 shows the cooperatives' 1973 volume of milk by region based on their headquarters locations.

The Central Region with the largest number of dairy cooperatives had 61 percent of total U.S. cooperative milk volume in 1957 and 65 percent in 1973. Between 1957 and 1973, the volume of milk marketed by cooperatives headquartered in the region increased steadily from 35.5 billion pounds to 54.3 billion pounds. The cooperative's share for the Central Region increased from 60 percent in 1957 to 69 percent in 1964 and 85 percent in 1973. The sharp increase after 1964 was due to an increase in cooperative volume coupled with a decrease in volume all farmers sold to plants and dealers.

In both the Middle Atlantic Region and the New England Region, the volume of milk marketed by cooperatives declined during 1964 to 1973. For New England, the decrease in cooperative volume was greater than the decline in total volume farmers sold to plants and dealers.

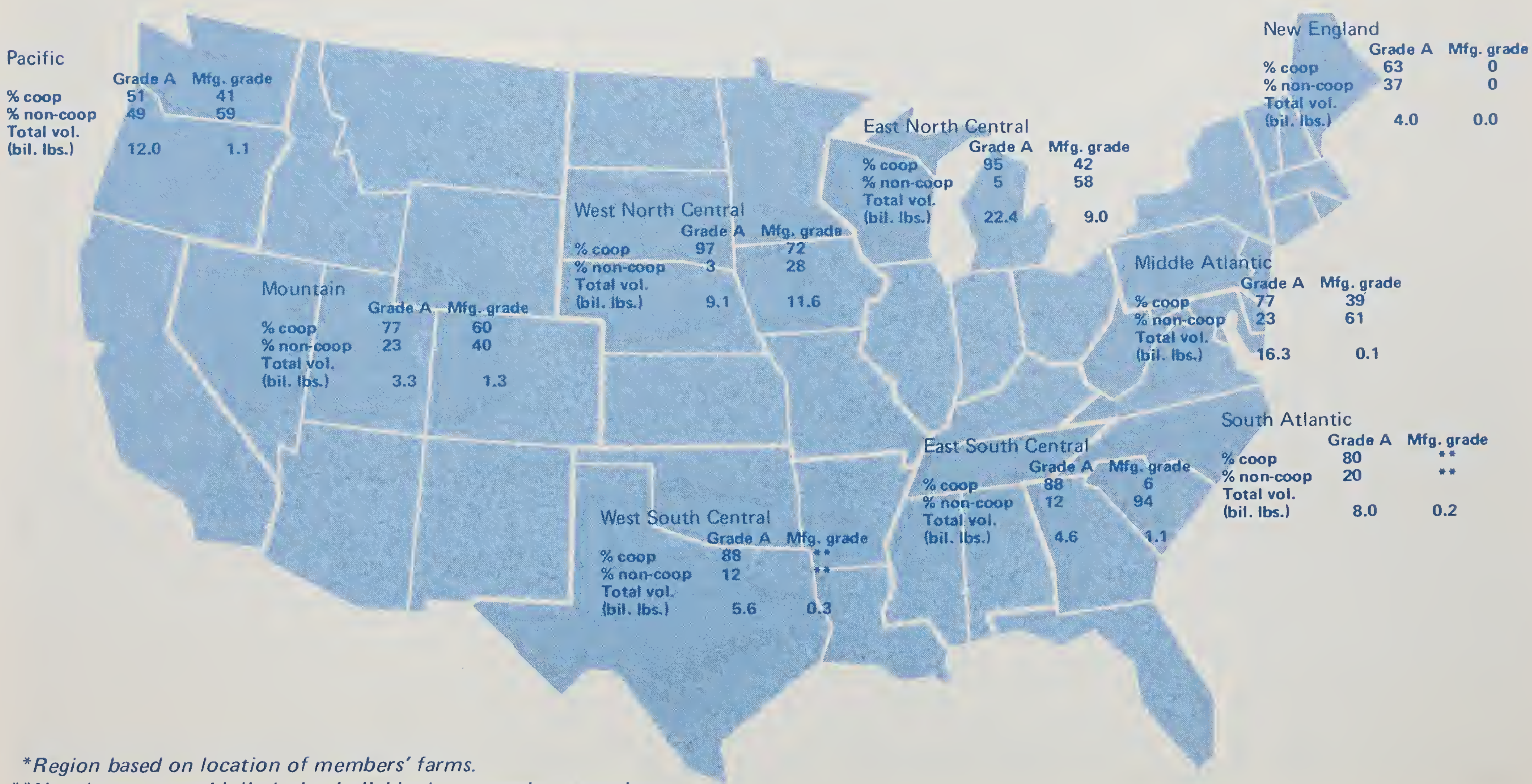
In the South Atlantic, Mountain, and Pacific Regions, both cooperative volume and total volume consistently increased in 1964 and 1973. While the Pacific Region continued to be the region with smallest proportion of milk marketed by cooperatives, their share increased from 43 percent in 1957 to 48 percent in 1964 and 51 percent in 1973.

Supply Location and Grade

More than 30 percent of total milk marketed by cooperatives came from farms in the East North Central Region (table 4 and fig. 3). Farms in the West North Central and Middle Atlantic Regions supplied 21 percent and 15 percent of the total cooperative supply, respectively.

Almost half the cooperatives' grade A milk supply came from farms in the East North Central and Middle Atlantic Regions that had 31 percent and 18 percent of total supply, respectively. Also, 90 percent of the manufacturing grade milk supply came from farms in the two North Central Regions—62 percent from West North Central Region, and 28 percent from East North Central Region.

Figure 3 — **Cooperatives' share of milk marketed based on farm location and grade, and total milk marketed, by region, 1973***



*Region based on location of members' farms.

**Not shown to avoid disclosing individual cooperative operations.

Some 563 cooperatives—95 percent of all dairy cooperatives—marketed milk for individual farmer members. Some 370 cooperatives marketed about 69 billion pounds of grade A milk for farmer members, and 328 cooperatives marketed about 13.5 billion pounds of manufacturing grade milk in 1973. Cooperatives marketed 81 percent of the grade A and 55 percent of manufacturing grade milk. The proportion of grade A milk marketed by cooperatives varied from 51 percent in the Pacific Region to 97 percent in the West North Central Region. The proportion of all manufacturing grade milk marketed by cooperatives varied from 6 percent in the East South Central Region to 72 percent in the West North Central Region.

Supply by Source

More than 84 percent of the cooperatives' 1973 gross milk receipts of 97.8 billion pounds came directly from farmers. Nearly all of the remainder came from other cooperatives. On the other hand, 35 percent of their cream receipts came from other cooperatives, 8 percent from farmers, and 57 percent from other sources.

Table 5 shows the 1973 number of cooperatives and volume of grade A milk, manufacturing grade milk, and cream by source for three regions and the Nation. (See fig. 4 for makeup of regions.) Some 382 cooperatives received 82.2 billion pounds of grade A milk from all sources. Also, 328 cooperatives received 15.6 billion pounds of manufacturing grade milk, and 127 cooperatives received 84 million pounds of cream.

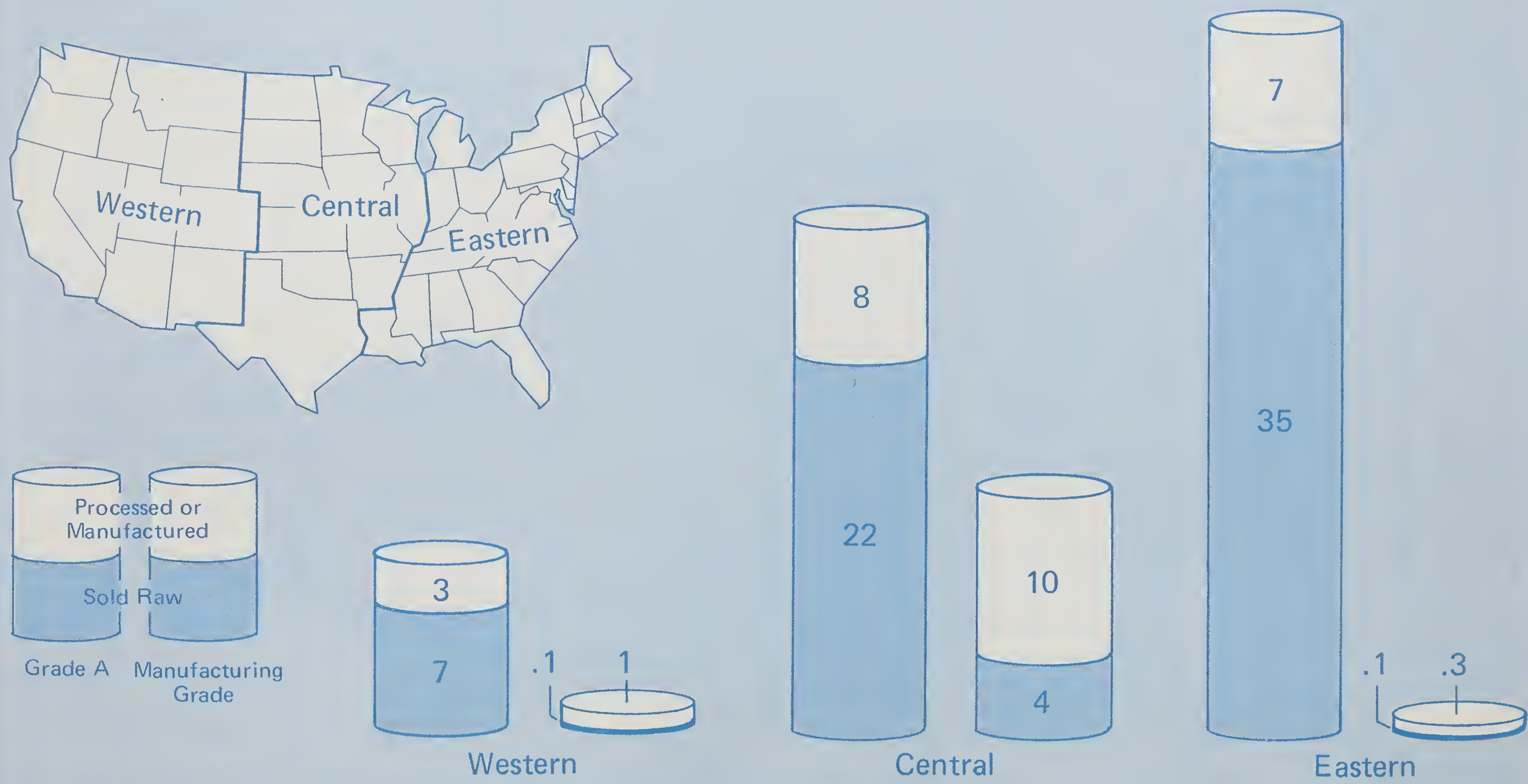
Almost one of every five cooperatives receiving grade A milk received some milk from other cooperatives. For manufacturing grade milk, intercooperative shipments were made by one out of nine cooperatives, while with cream it was one out of four.

Utilization of Milk Supply

In 1973, almost 98 billion pounds of milk was received from all sources by the 575 cooperatives reporting milk receipts (table 6). Almost 69 percent of the total cooperative volume including intercooperative sales was sold as raw whole milk.

The 382 cooperatives marketing grade A milk (includes 12 cooperatives that did not receive grade A milk directly from farmers) sold 77 percent of their total supply as raw whole milk. With

Figure 4 — **Utilization of cooperatively marketed grade A and manufacturing grade milk by region, 1973 (Billion Pounds)**



Volume of milk in Billion Pounds by region based on location of cooperatives' headquarters.

manufacturing grade milk, only 25 percent was sold as raw whole milk by the 328 cooperatives marketing this milk.

Cooperatives in the Eastern Region sold 83 percent of their total milk supply as raw whole milk (fig. 4). This compares with 58 percent for the Central Region and 60 percent for the Western Region.

MILK ASSEMBLY AND HAULING ARRANGEMENTS

Farmers shipping 40 percent of the cooperatives' total producer supply were within 25 miles of the plant of first receipt (table 7).

Another 44 percent were within 25 to 75 miles, and the remaining 16 percent were beyond 75 miles.

Data by regions based on headquarters locations of the cooperatives reporting this information show variations between regions in distance from farm to plant of first receipt. The West North Central, Pacific, and Middle Atlantic Regions had less than 10 percent of their milk supply shipped more than 75 miles, while the South Atlantic Region had almost one-third of its supply shipped this distance. In the Mountain Region, 23 percent of the supply was shipped less than 25 miles, while in the Middle Atlantic Region, 63 percent was shipped this distance.

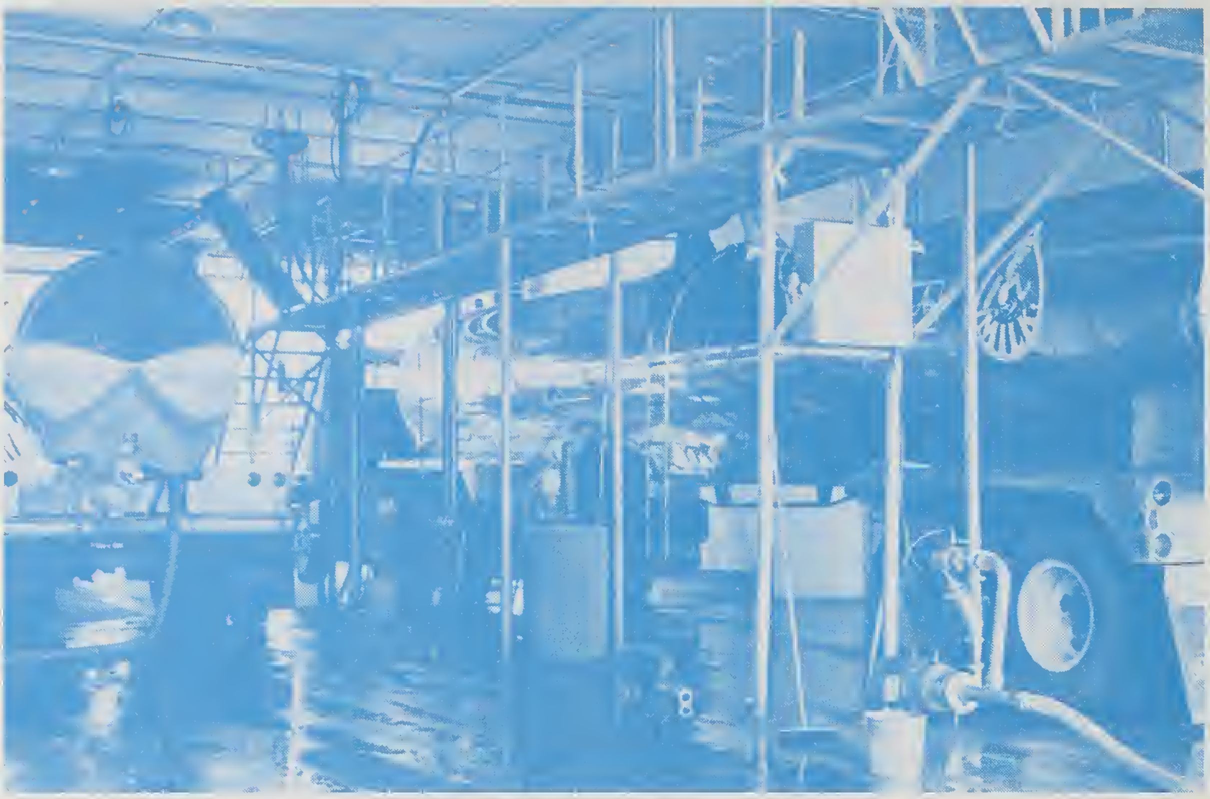
Trucking Arrangements

Use of contracts between the cooperative and hauler was reported by 48 percent of the 431 cooperatives providing information on trucking arrangements (table 8). Yet only 37 percent of the milk was hauled under this arrangement.

Use of cooperative-operated trucks was reported by 45 percent of the cooperatives. They hauled 21 percent of the total cooperative supply.

Milk hauling by agreements between producers and haulers were reported by 23 percent of the cooperatives. This method accounted for 38 percent of the total cooperative volume.

In the Eastern Region, 56 percent of the cooperatives reported the use of contracts between cooperatives and haulers for 48 percent of the total cooperative volume. The Central Region differed in that cooperative-operated trucks were reported by 58 percent of the cooperatives, yet these trucks handled only 19 per-



Over-the-road tankers at the Meridian, Idaho, milk transfer station of mountain Empire Dairymen's Association.

Farm bulk assembly hauler under contract to Milk, Inc., at a western Pennsylvania member's farm. Contracts between cooperatives and haulers are used by 48 percent of the reporting cooperatives.

cent of the volume. While 54 percent of the volume was hauled by agreement between individual producers and their haulers, this arrangement was reported by only 26 percent of the cooperatives.

In the Western Region, almost half the milk was hauled by cooperative-operated trucks. Most of the remaining volume was hauled under contract between the cooperative and the hauler.

PLANT OPERATIONS

In 1973, cooperatives owned 894 plants that performed a variety of milk processing and manufacturing operations (table 9). About 70 percent of these plants were in the West North Central Region with 373 plants, and the East North Central Region with 255 plants. The Middle Atlantic Region was the third largest with 83 plants. In other regions, the number of plants ranged from 18 in the East South Central Region to 41 in the South Atlantic Region.

All but 18 of the 894 plants received milk, with 419 serving only as milk receiving stations. Cheesemaking was the most frequently performed manufacturing operation, with 177 plants making natural cheese. About two-thirds of the cooperative cheese plants were in the East North Central Region.

Other major milk manufacturing functions include buttermaking by 170 plants and nonfat dry milk production by 105 plants. About 52 percent of the plants making butter were in the West North Central Region. An additional 18 percent were in the East North Central Region. The West North Central Region had 43 plants manufacturing nonfat dry milk, while 23 were in the East North Central Region. Thus, 63 percent of the plants making nonfat dry milk were in the two North Central Regions.

Some 142 plants packaged fluid milk products. They were widely scattered throughout the Nation. The South Atlantic Region had 26 plants, the largest number for any region. The East South Central and West South Central Region each had only five plants.

Cooperatives reported only 64 plants making ice cream mix, 60 making cottage cheese, and 44 making ice cream. They were situated throughout the Nation in a similar pattern to the fluid milk packaging plants.

Milk Receipts

Information on 733 cooperative plants shows raw milk receipts of 45.7 billion pounds (table 10). More than 86 percent of this volume came directly from farmers. These plants handled a little less than one-half of the total volume marketed by cooperatives.

More than two-thirds of the plants and 59 percent of total milk receipts were in the two North Central Regions.

DAIRY PRODUCTS MARKETED

The discussions and tabulations that follow on major products marketed describe the net volumes marketed by cooperatives after subtracting transactions between cooperatives. Volumes by region are based on the headquarters locations of the cooperatives. In most cases, comparisons are made between the net cooperative volume marketed and the total U.S. production. Except raw whole milk, they also show the number of cooperatives marketing and volumes of product marketed by various size groupings, both in actual number and as a percent of total cooperative sales—in this case without adjustments for inter-cooperative transactions.

Raw Whole Milk

Net sales of raw whole milk in 1973 by 458 cooperatives amounted to 52.2 billion pounds or 63 percent of total volume cooperatives received from farmers (table 11). Between 1957 and 1973, the volume of milk marketed as raw whole milk increased 44 percent or 16 billion pounds. At the same time, the number of cooperatives marketing raw whole milk declined 38 percent.

Cooperatives in the eastern regions have marketed relatively high percentages of their milk as raw whole milk compared with those in the western regions. In the Central Region, this percentage increased from 47 percent in 1964 to 61 percent in 1973. New England and the Middle Atlantic Regions have experienced decreased sales volumes of raw whole milk since 1964.

Butter

Cooperatives distributed 605 million pounds of butter in 1973 (table 12). Although cooperatives' net butter sales declined

Quality control of milk and dairy products is one of many services performed by dairy cooperatives for members and raw milk customers. Here, mastitis tests are being carried out in the laboratory of Cincinnati Cooperative Milk Sales Association.

36 percent between 1964 and 1973, they continued to sell about two-thirds of the total U.S. production.

In 1973, 77 percent of the butter distributed by cooperatives was distributed by those headquartered in the Central Region. This reflects a decline in the region's share of total cooperative sales from 89 percent in 1964. Cooperatives in the New England, Atlantic, and Pacific Regions have continued to increase their butter sales.

The number of cooperatives distributing butter declined from 740 in 1964 to 207 in 1973—a decrease of 72 percent (table 13). While the number of cooperatives distributing butter decreased in all size groups, the percentage of total cooperatives in size groups distributing 5 million pounds a year or more increased while those in size groups between 0.5 and 2.5 million pounds declined. The percentage of total cooperatives in the size group with sales of less than 0.5 million pounds increased from 48 to 58 percent.

Cooperatives with sales of 20 million pounds or more experienced a 13 percent decline in volume of butter distributed, yet their share of total cooperative sales increased from 38 to 61 percent. Size groups with sales volume of less than 5 million pounds had declines in share of the total cooperative sales volume.

Dry Milk Products

Cooperatives distributed 894 million pounds of dry milk products in 1973 (table 14). This volume included nonfat dry milk, dry buttermilk, and dry whole milk. Cooperatives' net sales of dry milk products reached 85 percent of the Nation's total volume manufactured, compared with 72 percent in 1964 and 57 percent in 1957.

About 75 percent of the 1973 dry milk product sales by cooperatives were made by cooperatives headquartered in the Central Region. Sales volumes for these cooperatives declined 54 percent between 1964 and 1973. Even so, this was less than the 61 percent decline in total volume of dry milk products produced by all manufacturers in the region.

Cooperative sales of dry milk products declined between 1964 and 1973 in all regions except the Pacific Region. Sales reduction by cooperatives was not as great as the decline in total production of dry milk products.

The number of cooperatives distributing dry milk products

declined from 212 in 1964 to 62 in 1973—a decrease of 71 percent (table 15). Number of cooperatives in all size groups decreased. In terms of percent of total cooperatives distributing dry milk products, the group with sales volume of 2.5 to 5 million pounds a year decreased from 18 percent to 5 percent. At the same time, the number with sales of 20 million pounds or more increased from 10 percent to 16 percent.

The decreased volume of dry milk products distributed was reflected in all cooperative size groups. With respect to share of total cooperative sales, cooperatives with sales of 20 million pounds or more increased from 57 percent of total to 73 percent. All other size groups experienced decreases in percent of total cooperative sales.

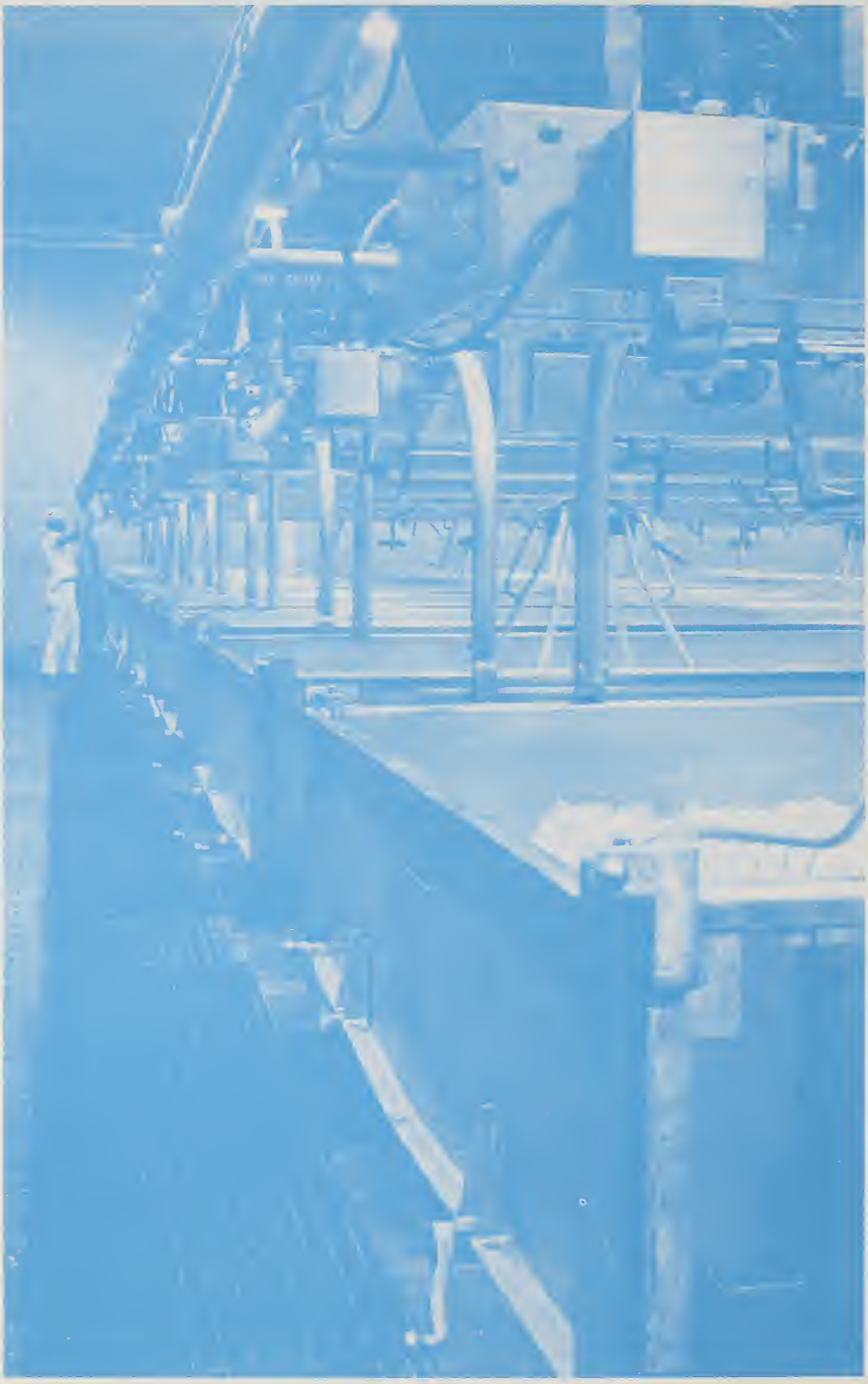
Natural Cheese

Cooperatives distributed 926 million pounds of natural cheese in 1973—up from 366 million pounds in 1964—an increase of 153 percent (table 16). At the same time, total cheese manufactured by all U.S. firms increased from 1,731 million pounds to 2,685 million pounds—an increase of 55 percent. Thus, cooperative sales increased from 21 percent of total production to 35 percent.

In 1973, 86 percent of cooperatives' net cheese sales were made by cooperatives headquartered in the Central Region, about the same as 1964 and up from 82 percent in 1957. The 1973 cheese produced in the Central Region by all firms was 80 percent of total U.S. production. This was a decline from 83 percent in 1964 and 85 percent in 1957.

The number of cooperatives distributing natural cheese declined from 294 in 1964 to 187 in 1973—a decrease of 36 percent (table 17). There were decreases in the number of cooperatives distributing cheese in all size groups of less than 2.5 million pounds, and increases for groups of 2.5 million pounds or more. As a percent of total cooperatives, size groups of less than a million pounds showed decreases, particularly those with less than 0.5 million pounds, where the number decreased from 49 percent of total to 31 percent. Size groups of 2.5 million or more showed increases in their share of total cooperatives.

Cooperatives distributing 10 million pounds or more distributed 75 percent of the total cooperative cheese volume in 1973. All other size groups experienced a decrease in percent of total.



Cooperatives' share of the Nation's natural cheese production is increasing. The cheese is made in fewer, but much larger, plants such as this one owned by Wisconsin Dairies Cooperative at Barron, Wis.

However, those size groups with sales of 2.5 million to 10 million pounds had larger sales volumes than in 1964.

Packaged Fluid Milk Products

Cooperatives distributed 6.7 billion pounds of packaged fluid milk products in 1973 (table 18). Between 1964 and 1973, cooperative sales of packaged products increased from 4.8 billion pounds to 6.7 billion pounds—an increase of 41 percent. Their share of total sales of all U.S. firms increased from 9 to 12 percent.

All regions except New England had increased sales volume. Distribution by New England cooperatives declined from 235 million pounds in 1964 to 71 million pounds in 1973. In terms of share of the New England market, cooperatives decreased from 6 percent to 2 percent.

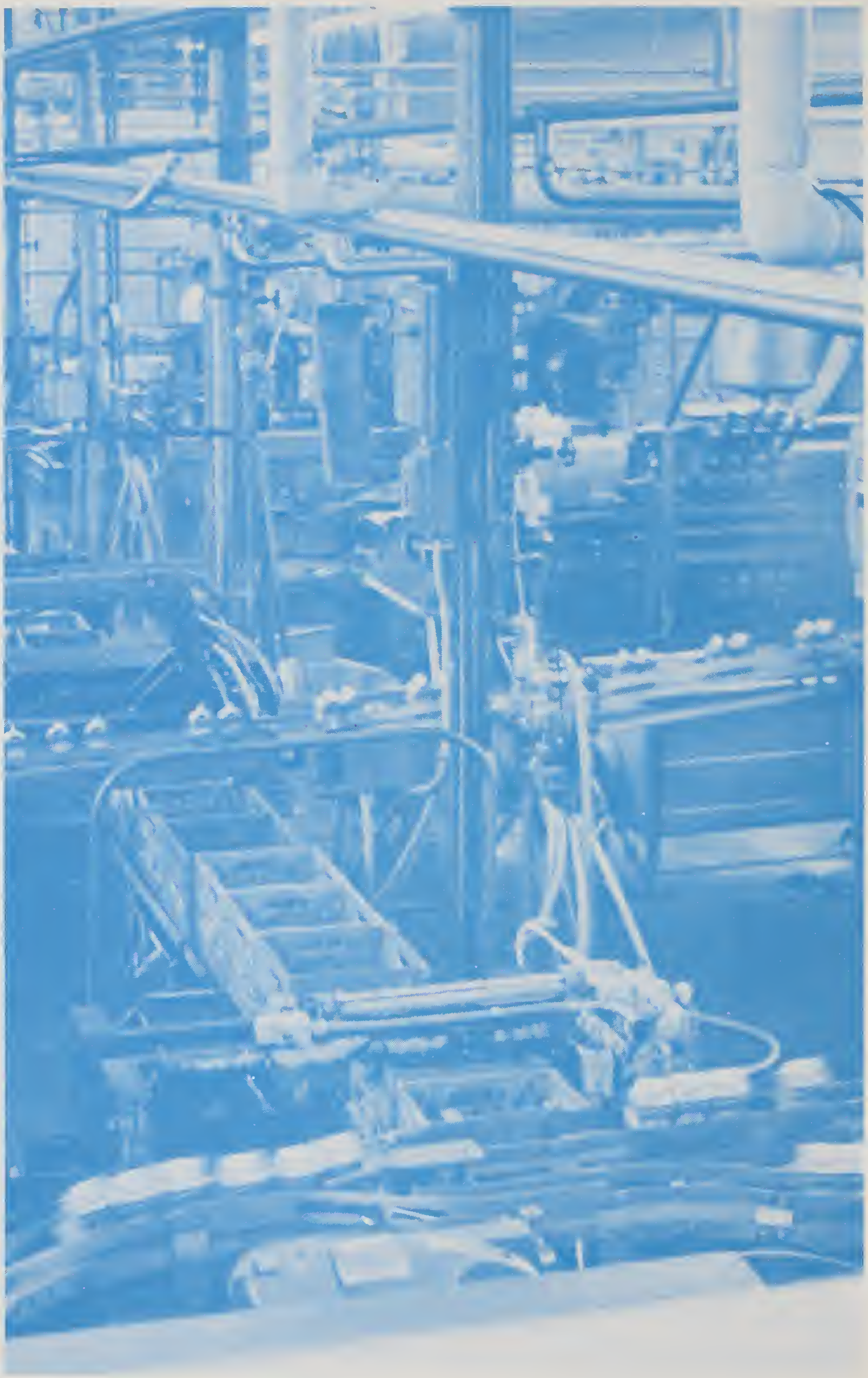
The largest increases were made by the Middle Atlantic cooperatives. They increased their share of the market from 9 percent to 18 percent. Although cooperatives in the South Atlantic Region had increased sales, their share of the total market declined from 17 percent to 14 percent.

The number of cooperatives distributing packaged fluid milk products decreased from 215 in 1964 to 85 in 1973, a decline of 60 percent (table 19). The number of cooperatives declined in all size groups except the group of cooperatives with 20 million quarts or more. This group increased from 32 cooperatives to 37 cooperatives, and from 15 percent of total cooperatives to 44 percent. While the group with 10 to 20 million quarts decreased from 21 to 10 cooperatives, its share of total cooperatives increased from 10 to 12 percent.

In 1964, the group of cooperatives with fluid milk product sales of 20 million quarts or more distributed 71 percent of the total cooperative volume, while in 1973 this group distributed 91 percent. Also, 21 cooperatives with sales of 40 million quarts in 1973 distributed 77 percent.

Cottage Cheese

In 1973, cooperatives distributed 143 million pounds of cottage cheese, up 49 percent or 47 million pounds from 1957 (table 20). The cooperative share of total U.S. production during



Dairy farmers are increasing their investments in fluid processing plants such as this large, highly automated facility operated by Valley of Virginia Cooperative Milk Producers Association near Washington D.C.

this period has decreased slightly to the present level of 13 percent.

Cooperatives in all regions except New England and Mountain increased their distribution of cottage cheese between 1964 and 1973. Yet only in the Middle Atlantic Region did cooperatives increase their share of cottage cheese distribution.

Cooperatives in the Central Region accounted for 47 percent of 1973 cooperative cottage cheese sales with 67 million pounds. Those in the Pacific Region had 20 percent with 28 million pounds distributed. Next were cooperatives in the Middle Atlantic Region with 18 percent and 26 million pounds sold.

The number of cooperatives distributing cottage cheese in 1973 decreased by half from 1964 down to 64 (table 21). The number of cooperatives in all size groups distributing less than 2.5 million pounds decreased, while the number in the group selling 5 millions pounds or more increased. The two size groups selling 2.5 million pounds or more account for 27 percent of all cooperatives distributing cottage cheese and 82 percent of total cooperative volume.

Ice Cream and Ice Milk

Cooperatives play a relatively minor role in the distribution of these frozen products. In 1973, cooperatives distributed 59 million gallons, or only 5 percent of the Nation's production (table 22). Their share of total U.S. sales increased slightly from 4 percent in 1957, or an increase of 27.5 million gallons. Since 1964, the cooperatives' share has remained the same.

Cooperatives in the Central Region account for 49 percent of 1973 cooperative frozen product sales with 29 million gallons. These cooperatives along with those in the Mountain Region have consistently increased their sales volume and share of total sales by cooperatives since 1957.

The number of cooperatives distributing ice cream and ice milk dropped from 143 in 1964 to 60 in 1973 (table 23). This decline occurred entirely among those cooperatives distributing less than 1 million gallons a year. While cooperatives distributing less than 1 million gallons annually remained the most numerous, their volume dropped from 14 million gallons to 6 million gallons. The 19 cooperatives with sales of more than 1 million gallons in 1973 had 89 percent of total cooperative sales. Also, 11 cooper-

atives with sales of 2 million gallons or more distributed 71 percent of the cooperative total.

Bulk Condensed Milk Products

About half of the Nation's total production of evaporated and condensed milk is shipped in bulk to other food processors for use in making such products as frozen desserts, candy, and bakery goods. In 1973, U.S. production of bulk condensed milk was 1,115 million pounds (table 24). During this year, 41 cooperatives sold 252 million pounds, or 23 percent of total U.S. production. This does not include amounts that multiplant cooperatives produced for shipment to their other plants.

Of the 41 cooperatives reporting distribution of bulk condensed milk, 22 had sales of less than 5 million pounds each. Another 13 distributed between 5 and 10 million pounds. Distribution for the remaining six cooperatives averaged 20 million pounds each.

Frozen Product Mix

Forty-eight cooperatives reported sales of frozen product mix in 1973 totaling 421 million pounds (table 24). Compared with U.S. production of frozen product mix, the cooperatives' sales volume accounted for 73 percent.

Cooperatives distributing frozen product mix could be divided largely into two groups, those handling a small volume of about a million pounds a year, and those distributing more than 10 million pounds a year. Sales for the 15 cooperatives distributing 10 million pounds or more averaged 25 million pounds each.

Condensed Whey

Only 12 cooperatives reported sales of condensed whey in 1973. Their distribution of 67 million pounds was 38 percent of the 174 million pounds that made up total U.S. production (table 24).

Nine cooperatives distributing less than 5 million pounds a year handled about 25 percent of the total cooperative volume. Sales for the other three cooperatives averaged about 17 million pounds a year.

Dry Whey

In 1973, 32 cooperatives distributed 433 million pounds of dry whey (table 24). Compared with total U.S. production of 772 million pounds, they distributed 56 percent.

Average volume for the 20 small-volume cooperatives was 1.6 million pounds a year. One-fourth of the cooperatives distributed more than 10 million pounds a year and averaged 47 million each.

Cooperative Concentration Ratios

Table 25 shows the 4, 8, and 20 largest cooperatives' proportion of all cooperatives' receipts of grade A milk from farmers, milk processed or manufactured, and sales of selected products. It also shows the larger cooperatives' proportion of receipts, plant volume, and sales as a percent of total U.S. production. However, note that the cooperatives included in each size group are not identical. For example, the four largest cooperatives selling butter are not also the four largest cooperatives selling cheese.

Data showing the larger cooperatives' share of total cooperative sales are gross sales and include intercooperative transactions. Other data, reflecting the largest cooperatives' share of total U.S. production, do not include intercooperative sales.

The 20 largest cooperatives received more than two-thirds of all grade A milk farmers marketed through their cooperatives. They marketed more than half of total U.S. volume. Their plants accounted for about three-fifths of the milk processed or manufactured by cooperative plants and almost one-sixth of the total volume for all U.S. dairy plants.

The four largest cooperatives sold a significant proportion of total cooperative volume, ranging from 35 percent of packaged fluid milk to 54 percent of butter. Marketing of butter and dry milk products is largely performed by the larger cooperatives, both among cooperatives and nationally. The 20 largest cooperatives made 79 percent of cooperative butter sales and accounted for 51 percent of total U.S. production. For dry milk products (nonfat dry milk, dry buttermilk, dry whole milk), the largest 20 made 85 percent of all cooperative sales and accounted for 72 percent of national production.

While the 20 largest cooperatives made nearly three-fourths or more of cooperative sales of most major dairy products, they are much less important on a national scale, selling only 25 per-

cent of U.S. production of natural cheese and 9 percent of total packaged fluid milk.

DISTRIBUTION AT RETAIL

Nearly all of the dairy products distributed by dairy cooperatives was sold to wholesale outlets. Except for butter and fluid milk products, most cooperatives reported no retail sales. The 47 cooperatives (55 percent of total) reporting retail sales of fluid milk products actually sold only 6.5 percent at retail (table 26). Much of this was done by cooperatives headquartered in the Eastern Region where their retail sales were almost 9 percent of total. Even though 56 percent of the cooperatives selling butter reported retail butter sales, this volume amounted to only 1.4 percent of total sales.

About 2 percent of the cottage cheese distributed by cooperatives was sold at retail. This compares with 1 percent for natural cheese and 0.5 percent for ice cream.

DISTRIBUTION OF BRANDED PRODUCTS

Cooperatives distributing branded products used more private labels, and generally distributed more products under private labels than under their cooperative labels. Cooperatives distributing small volumes of products tended to distribute a higher percentage of products under their cooperative label than the large-volume cooperatives.

Sixty cooperatives reporting sales of branded fluid milk products used 91 co-op labels and 311 private labels (table 27). Twenty-five of these cooperatives used their cooperative label only. Another 21 cooperatives used their cooperative label for 67 percent to 99 percent of their total volume. The volume packaged by the remaining 14 cooperatives under their own label was relatively small. For all 60 cooperatives, sales packaged under their own label were 49 percent of total sales.

A similar pattern existed for use of cooperative labels with other products. For cottage cheese, dry milk products, butter, natural cheese, and condensed or evaporated milk the percentage of sales packaged under cooperative labels ranged from 29 percent down to 4 percent. Ice cream provided the highest use of cooperative labels—58 percent of total sales.

TABLES

Table 1—Dairy cooperatives by type of operation and by region, 1964 and 1973

Region	Processing and manufacturing dairy products		Operating milk and cream receiving facilities only		Not physically handling dairy products		Total	
	1964	1973	1964	1973	1964	1973	1964	1973
				Number				
New England	18	10	4	1	6	4	28	15
Middle Atlantic	22	14	34	15	109	104	165	133
East North Central	258	133	21	11	31	23	310	167
West North Central	453	85	91	97	20	2	564	184
South Atlantic	31	13	11	—	16	8	58	21
South Central	16	5	7	3	13	7	36	15
Mountain	17	14	1	3	10	3	28	20
Pacific	41	17	—	—	14	20	55	37
United States	856	291	169	130	219	171	1,244	592
Percent	69	49	13	22	18	29	100	100

Table 2—Cooperatives distributing selected dairy products, by region, 1964 and 1973

Region	Bulk whole milk		Packaged fluid milk products		Bulk cream		Ice cream		Cottage cheese		Natural cheese		Butter		Nonfat dry milk	
	1964	1973	1964	1973	1964	1973	1964	1973	1964	1973	1964	1973	1964	1973	1964	1973
							Number									
New England	25	12	12	8	9	6	3	3	11	4	4	3	10	6	6	2
Middle Atlantic	160	128	16	10	13	8	11	4	13	8	5	5	14	6	7	3
East North Central	112	78	33	14	197	116	15	7	20	12	184	115	143	55	52	16
West North Central	294	163	84	16	156	55	55	22	18	9	63	43	478	100	105	14
South Atlantic	46	17	36	13	7	8	28	5	32	12	3	2	29	7	4	2
South Central	33	13	7	3	12	4	5	2	4	2	8	3	14	4	12	2
Mountain	17	14	9	9	3	5	9	8	9	9	6	8	17	13	10	6
Pacific	43	33	18	12	23	6	17	9	19	8	21	8	35	16	16	12
Total	730	458	215	85	420	208	143	60	126	64	294	187	740	207	212	57

Table 3—Cooperatives' share of milk delivered to plants and dealers, volume by region for selected years [1]

Region	Handled by cooperatives [2]			U.S. total delivered to plants and dealers			Cooperative percentage of total		
	1957	1964	1973	1957	1964	1973	1957	1964	1973
	Million pounds						*Percent*		
New England	2,686	3,877	2,580	3,951	4,441	4,002	68	87	64
Middle Atlantic	10,553	13,079	11,961	15,832	18,195	16,335	67	72	73
South Atlantic	3,299	4,176	4,523	6,584	7,489	8,198	50	56	55
Central	35,538	47,812	54,333	59,277	69,140	63,605	60	69	85
Mountain	1,995	2,683	3,210	3,473	3,980	4,620	57	67	69
Pacific	3,967	5,116	6,620	9,261	10,690	13,063	43	48	51
United States	58,038	76,743	83,227	98,378	113,935	109,823	59	67	76

[1] Cooperative data were tabulated by their headquarters locations.

[2] Handled either by physical receipt or by bargaining transactions. Volumes shown include both amounts marketed directly for farmers and small amounts purchased from other concerns. For example, in 1973, cooperatives received 82,532 million pounds from farmers and 695 million pounds from other concerns. They do not include intercooperative transactions except possibly small amounts reported in purchases from other concerns.

Table 4—Cooperatives' share of milk marketed based on farm location, volume, and grade, by region [1]

Region	Grade A			Manufacturing grade			Total		
	Co-ops [2]	Volume	Marketing share[3]	Co-ops [2]	Volume	Marketing share[3]	Co-ops [2]	Volume	Marketing share[3]
	No.	*Mil. lb.*	*Pct.*	*No.*	*Mil. lb.*	*Pct.*	*No.*	*Mil. lb.*	*Pct.*
New England	18	2,526	63	—	—	—	18	2,526	63
Middle Atlantic	139	12,405	77	4	49	39	143	12,454	76
East North Central	69	21,239	95	132	3,778	42	167	25,017	80
West North Central	92	8,886	97	176	8,379	72	187	17,265	83
South Atlantic	29	6,350	80	[4]	[4]	[4]	29	[4]	78
East South Central	10	4,010	88	4	67	6	12	4,077	73
West South Central	11	4,903	88	[4]	[4]	[4]	11	[4]	84
Mountain	20	2,585	77	8	775	60	22	3,360	73
Pacific	35	6,094	51	15	436	41	37	6,530	50
United States [5]	370	68,998	81	328	13,534	55	563	82,532	75

[1] Includes milk either physically received by cooperatives or marketed by bargaining transactions.
[2] Co-ops having members in the region, but not necessarily headquartered there.
[3] Co-op volume as a percent of total milk sold to plants and dealers during 1973.
[4] Regions not shown when less than 3 co-ops reported or individual co-op operations might be disclosed.
[5] Number of cooperatives do not add to totals since some receive milk from more than one region.

Table 5—Cooperatives' marketing of grade A and manufacturing grade raw whole milk and cream by region, 1973 [1]

Product and source	Region						Total	
	Eastern		Central		Western			
	Co-ops	Volume	Co-ops	Volume	Co-ops	Volume	Co-ops	Volume
	No.	*Mil. lb.*	*No.*	*Mil. lb.*	*No.*	*Mil. lb.*	*No.*	*Mil. lb.*
Grade A milk:								
Farmers	195	32,744	127	27,783	48	8,471	370	68,998
Non co-ops	25	406	6	47	10	146	41	599
Other co-ops	36	8,488	20	2,359	15	1,777	71	12,624
Total [2]	200	41,638	132	30,189	50	10,394	382	82,221
Manufacturing grade milk:								
Farmers	15	263	290	12,061	23	1,210	328	13,534
Non co-ops	3	48	11	46	3	2	17	96
Other co-ops	4	25	28	1,958	4	6	36	1,989
Total [2]	15	336	290	14,065	23	1,218	328	15,619
Cream:								
Farmers	8	3	74	3	8	1	90	7
Nonco-ops	16	9	13	32	9	7	38	48
Other co-ops	13	5	15	20	3	4	31	29
Total [2]	20	17	91	55	16	12	127	84

[1] Data tabulated by cooperatives' headquarters locations.

[2] Number of cooperatives do not add to totals since some receive milk and cream from more than one source.

Table 6—Utilization of cooperatively marketed grade A and manufacturing grade milk, by region, 1973 [1]

Utilization	Region						Total	
	Eastern		Central		Western			
	Co-ops	Volume	Co-ops	Volume	Co-ops	Volume	Co-ops	Volume
	No.	Mil. lb.	No.	Mil. lb.	No.	Mil. lb.	No.	Mil. lb.
Grade A:								
Sold raw	188	34,583	125	21,860	46	6,865	359	63,308
Processed or manufactured	50	7,055	58	8,329	24	3,529	132	18,913
Total [2]	200	41,638	132	30,189	50	10,394	382	82,221
Manufacturing grade:								
Sold raw	5	83	169	3,700	11	148	185	3,931
Processed or manufactured	12	253	176	10,365	19	1,070	207	11,688
Total [2]	15	336	290	14,065	23	1,218	328	15,619
Total milk:								
Sold raw	189	34,666	222	25,560	47	7,013	458	67,239
Processed or manufactured	57	7,308	183	18,694	28	4,599	268	30,601
Total [2]	207	41,974	314	44,254	54	11,612	575	97,840

[1] Data tabulated by cooperatives' headquarters locations.
[2] Number of cooperatives do not add to total since some both sold raw milk and processed or manufactured dairy products. Also, some marketed both grade A and manufacturing grade milk.

Table 7—Distance cooperative milk is shipped from farm to plant of first receipt, by region, 1973 [1]

Region	Milk shipped			
	Under 25 miles	25 to 75 miles	More than 75 miles	Total
		Percent		
New England	39.4	40.0	20.6	100.0
Middle Atlantic	63.0	27.6	9.4	100.0
East North Central	35.6	46.4	18.0	100.0
West North Central	38.3	54.0	7.7	100.0
South Atlantic	23.8	43.5	32.7	100.0
East South Central	26.7	48.2	25.1	100.0
West South Central	42.1	40.6	17.3	100.0
Mountain	22.8	57.1	20.1	100.0
Pacific	39.3	52.3	8.4	100.0
United States	40.0	44.2	15.8	100.0

[1] Computed from data for 429 cooperatives representing 88 percent of total receipts from farmers. Data were tabulated by cooperatives' headquarters and not by plant location.

Table 8—Cooperatives' farm-to-plant milk hauling arrangements, by region, 1973 [1]

Hauling arrangement	Region						Total	
	Eastern		Central		Western			
	Co-ops	Milk	Co-ops	Milk	Co-ops	Milk	Co-ops	Milk
	Percent							
Trucks operated by co-op	25	17	58	19	49	49	45	21
Contract between co-op and hauler	56	48	39	26	64	40	48	37
Agreement between producer and hauler	22	27	26	54	11	7	23	38
Other	11	8	2	1	2	4	5	4
Total [2]	100	100	100	100	100	100	100	100

[1] Data were tabulated by cooperatives' headquarters locations.
[2] Cooperatives reporting do not add to totals since some reported more than one arrangement for hauling milk.

Table 9—Cooperative-owned plants performing various marketing functions, by region, 1973

Function	Region									
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific	Total
					Number					
Receive and ship milk	36	82	249	368	40	17	25	30	29	876
Make natural cheese	3	3	116	37	0	1	4	9	4	177
Churn butter	5	5	30	89	4	4	3	16	14	170
Package fluid milk	8	22	24	21	26	5	5	14	17	142
Make nonfat dry milk	3	10	23	43	1	2	6	7	10	105
Make condensed milk	4	8	20	19	3	1	5	2	9	71
Make ice cream mix	3	8	9	7	15	6	1	7	8	64
Make cottage cheese	2	3	13	12	12	1	2	7	8	60
Make dry whey	0	3	13	30	0	0	3	3	0	52
Make ice cream	3	4	6	5	9	2	2	6	7	44
Make condensed whey	1	3	12	13	0	0	0	2	2	33
Total [1]	36	83	255	373	41	18	25	34	29	894

[1] Number of plants do not add to totals since some perform more than one function.

Table 10—Raw whole milk received at dairy cooperative plants, by region, 1973

Region	Raw whole milk from farmers		Raw whole milk from other sources		Total	
	Plants	Volume	Plants	Volume	Plants	Volume
	No.	*Mil. lb.*	*No.*	*Mil. lb.*	*No.*	*Mil. lb.*
New England	31	2,257	10	27	35	2,284
Middle Atlantic	73	4,422	34	1,105	69	5,527
E. North Central	202	9,951	55	1,171	154	11,122
W. North Central	296	13,291	55	2,456	349	15,747
South Atlantic	36	2,372	22	467	39	2,839
E. South Central	15	818	9	200	15	1,018
W. South Central	16	1,080	8	88	24	1,168
Mountain	29	1,852	10	138	21	1,990
Pacific	23	3,406	17	593	27	3,999
United States [1]	721	39,449	220	6,245	733	45,694

[1] Data for some 150 plants were not available.

Table 11—Raw whole milk marketed by cooperatives, volume by region for selected years [1]

Region	Cooperatives reporting			Volume			Percent of all milk marketed by cooperatives		
	1957	1964	1973	1957	1964	1973	1957	1964	1973
		Number			*Million pounds*			*Percent*	
New England	[2]	25	12	2,116	3,066	2,074	79	79	80
Middle Atlantic	[2]	160	128	9,045	10,869	8,835	86	83	74
South Atlantic	[2]	46	17	2,632	2,801	2,903	80	67	64
Central	[2]	439	254	19,220	22,662	33,194	54	47	61
Mountain	[2]	17	14	891	1,362	1,720	45	51	54
Pacific	[2]	43	33	2,309	2,683	3,454	58	52	52
United States	735	730	458	36,213	43,443	52,180	62	57	63

[1] Cooperative data were tabulated by their headquarters locations. Adjusted for intercooperative transactions. Includes purchases from other sources. Volume covered by bargaining is included.

[2] Data not available.

Table 12—Butter distributed by cooperatives compared with total U.S. production, for selected years [1]

Region	Distributed by cooperatives [2]			Total manufactured			Cooperative percent of total		
	1957	1964	1973	1957	1964	1973	1957	1964	1973
	1,000 pounds						Percent		
New England	2,088	2,908	6,523	2,128	8,222	7,539	98	35	87
Atlantic	8,401	19,326	23,967	38,515	78,605	52,313	22	25	46
Central	733,275	838,448	465,014	1,251,177	1,239,536	666,417	59	68	70
Mountain	32,803	33,029	20,645	59,203	48,704	39,150	55	68	53
Pacific	39,113	44,858	88,568	61,825	67,380	153,199	63	67	58
United States	815,680	938,569	604,717	1,412,848	1,442,447	918,618	58	65	66

[1] Cooperative data were tabulated by their headquarters locations.
[2] Adjusted for intercooperative transactions. Includes purchases from other sources.

Table 13—Size groups of dairy cooperatives distributing butter, 1964 and 1973

Size groups (1,000 pounds)	Number of co-ops		Percent of co-ops		Group volume (1,000 pounds)		Percent of total volume	
	1964	1973	1964	1973	1964	1973	1964	1973
Less than 500	354	120	48	58	49,999	8,534	4	1
500 - 999	136	20	18	10	100,011	15,331	7	2
1,000 - 2,499	142	22	19	11	212,730	33,123	15	4
2,500 - 4,999	64	19	9	9	225,296	70,975	16	9
5,000 - 9,999	25	15	3	7	173,430	105,132	12	14
10,000 - 19,999	8	5	1	2	105,600	66,149	8	9
20,000 - and over	11	6	2	3	537,355	467,698	38	61
Total	740	207	100	100	1,404,421	766,942	100	100

Table 14—Dry milk products distributed by cooperatives compared with total U.S. production for selected years [1]

Region	Distributed by cooperatives [2]			U.S. total manufactured			Cooperative percent of total		
	1957	1964	1973	1957	1964	1973	1957 [3]	1964	1973
	1,000 pounds						*Percent*		
New England	12,276	22,506	13,694	28,442	42,106	13,944	43	53	98
Atlantic	38,603	89,513	63,186	171,183	288,806	92,669	23	31	68
Central	851,126	1,460,362	664,576	1,409,747	1,870,705	721,664	60	78	92
Mountain	61,546	64,526	30,020	66,826	65,096	31,062	92	99	97
Pacific	43,432	72,120	122,889	89,021	111,300	188,223	49	65	65
United States	1,006,983	1,709,027	894,365	1,765,219	2,378,013	1,047,562	57	72	85

[1] Cooperative data were tabulated by their headquarters locations.
[2] Adjusted for intercooperative transactions. Includes purchases from other sources.
[3] Revised.

Table 15—Size groups of dairy cooperatives distributing dry milk products, 1964 and 1974

Size groups (1,000 pounds)	Number of co-ops		Percent of co-ops		Group volume (1,000 pounds)		Percent of total volume	
	1964	1973	1964	1973	1964	1973	1964	1973
Less than 1,000	39	11	19	18	15,317	2,740	[1]	[1]
1,000 - 2,499	22	10	10	16	41,027	16,234	2	1
2,500 - 4,999	38	3	18	5	145,240	10,336	6	1
5,000 - 9,999	62	18	29	29	438,347	127,045	18	12
10,000 - 19,999	29	10	14	16	407,704	136,488	17	13
20,000 and over	22	10	10	16	1,395,086	778,198	57	73
Total	212	62	100	100	2,442,721	1,071,041	100	100

[1] Less than 0.05 percent.

Table 16—Natural cheese marketed by cooperatives compared with total U.S. production for selected years [1]

Region	Marketed by cooperatives [2]			Total manufactured			Cooperative percent of total		
	1957	1964	1973	1957	1964	1973	1957	1964	1973
	1,000 pounds						*Percent*		
New England	266	7,520	8,585	13,775	24,052	43,917	2	31	20
Atlantic	4,778	2,915	30,440	118,534	156,235	256,924	4	2	12
Central	206,661	312,492	798,830	1,190,665	1,444,242	2,161,617	17	22	37
Mountain	14,274	21,120	61,037	45,460	61,355	133,354	31	34	46
Pacific	26,966	21,855	27,555	38,995	44,689	89,538	69	49	31
United States	252,945	365,902	926,447	1,407,429	1,730,573	2,685,350	18	21	35

[1] Cooperative data were tabulated by their headquarters locations. Includes all types of cheese except cottage cheese.
[2] Adjusted for intercooperative transactions. Includes purchases from other sources.

Table 17—Size groups of dairy cooperatives distributing natural cheese, 1964 and 1973

Size groups (1,000 pounds)	Number of co-ops		Percent of co-ops		Group volume (1,000 pounds)		Percent of total volume	
	1964	1973	1964	1973	1964	1973	1964	1973
Less than 499	143	57	49	31	26,939	9,215	7	1
500 - 999	57	31	19	17	41,553	24,575	10	2
1,000 - 2,499	63	40	21	21	99,881	63,565	24	6
2,500 - 4,999	16	27	6	14	54,043	89,500	13	9
5,000 - 9,999	9	11	3	6	59,222	76,870	14	7
10,000 and over	6	21	2	11	130,656	799,492	32	75
Total	294	187	100	100	412,294	1,063,217	100	100

Table 18—Packaged fluid milk products distributed by cooperatives compared with estimated U.S. total, 1964 and 1973 [1]

Region	Distributed by cooperatives [2]		Total [3]		Cooperative percent of total	
	1964	1973	1964	1973	1964	1973
	Million pounds				*Percent*	
New England	235	71	3,751	3,610	6	2
Middle Atlantic	938	1,776	10,457	9,990	9	18
South Atlantic	974	1,077	5,732	7,541	17	14
Central	1,635	2,606	23,172	24,628	7	11
Mountain	204	363	1,944	2,455	10	15
Pacific	785	822	7,198	7,412	11	11
United States	4,771	6,715	52,254	55,636	9	12

[1] Cooperative data were tabulated by their headquarters locations. Based on product pounds.
[2] Adjusted for intercooperative transactions.
[3] Sales of fluid products by all processors.

Table 19—Size groups of dairy cooperatives distributing packaged fluid milk products, 1964 and 1973

Size group (1,000 quarts)	Number of co-ops		Percent of co-ops		Group volume (1,000 quarts)		Percent of total volume	
	1964	1973	1964	1973	1964	1973	1964	1973
Less than 500	63	12	29	14	10,548	2,120	[1]	[1]
500 - 999	21	2	10	2	14,136	1,446	1	[1]
1,000 - 2,499	22	4	10	5	33,535	7,626	2	[1]
2,500 - 4,999	30	12	14	14	108,372	45,191	5	1
5,000 - 9,999	26	8	12	9	183,848	59,676	8	2
10,000 - 19,999	21	10	10	12	297,560	151,476	13	5
20,000 and over	32	37	15	44	1,575,774	2,855,926	71	91
Total	215	85	100	100	2,223,773	3,123,461	100	100

[1] Less than 0.5 percent.

Table 20—Cottage cheese distributed by cooperatives compared with total U.S. production, selected years [1]

Region	Distributed by cooperatives [2]			Total manufactured			Cooperative percent of total		
	1957	1964 [3]	1973	1957	1964	1973	1957	1964	1973
			1,000 pounds					*Percent*	
New England	4,254	1,898	1,773	24,149	31,287	43,507	18	6	4
Middle Atlantic	11,087	16,123	25,557	113,953	141,371	208,101	10	11	12
South Atlantic	6,075	7,986	11,960	30,551	41,620	77,671	20	19	15
Central	48,310	66,613	67,289	350,305	422,523	482,274	14	16	14
Mountain	6,920	10,689	8,535	30,090	42,050	57,865	23	25	15
Pacific	19,569	26,867	28,182	145,237	181,901	216,804	13	15	13
United States	96,215	130,176	143,296	694,285	860,752	1,086,222	14	15	13

[1] Cooperative data were tabulated by their headquarters locations.
[2] Adjusted for intercooperative transactions. Includes purchase from other sources.
[3] 1957 includes creamed cottage cheese only, while 1964 and 1973 include both creamed and partially creamed.

Table 21—Size groups of dairy cooperatives distributing cottage cheese, 1964 and 1973

Size group (1,000 pounds)	Number of co-ops		Percent of co-ops		Group volume (1,000 pounds)		Percent of total volume	
	1964	1973	1964	1973	1964	1973	1964	1973
Less than 100	45	16	35	25	1,655	695	1	[1]
100 - 499	37	12	29	18	8,860	2,628	7	2
500 - 999	15	10	12	16	10,302	7,193	8	5
1,000 - 2,499	15	9	12	14	22,576	15,355	17	11
2,500 - 4,999	7	7	6	11	24,265	25,993	19	18
5,000 and over	7	10	6	16	62,518	91,432	48	64
Total	126	64	100	100	130,176	143,296	100	100

[1] Less than 0.5 percent.

Table 22—Ice cream and ice milk distributed by cooperatives compared with total U.S. production, for selected years [1]

Region	Distributed by cooperatives [2]			Total manufactured			Cooperative percent of total		
	1957 [3]	1964	1973	1957	1964	1973	1957	1964	1973
	1,000 gallons						*Percent*		
New England	217	196	105	48,629	55,914	84,145	[4]	[4]	[4]
Middle Atlantic	7,003	6,449	7,007	161,698	191,356	191,409	4	3	4
South Atlantic	1,761	10,613	9,834	94,759	133,006	152,990	2	8	6
Central	9,349	21,748	28,758	332,061	420,276	528,596	3	5	5
Mountain	900	3,029	3,638	27,634	34,077	44,182	3	9	8
Pacific	11,961	10,180	9,405	93,330	119,961	157,751	13	8	6
United States	31,191	52,215	58,747	758,111	954,590	1,159,073	4	5	5

[1] Cooperative data were tabulated by their headquarters locations.
[2] Adjusted for intercooperative transactions. Includes purchases from other sources.
[3] Does not include a small amount of ice milk.
[4] Less than 0.5 percent.

Table 23—Size groups of dairy cooperatives distributing ice cream and ice milk, 1964 and 1973

Size groups (1,000 gallons)	Number of co-ops		Percent of co-ops		Group volume (1,000 gallons)		Percent of total volume	
	1964	1973	1964	1973	1964	1973	1964	1973
Less than 100	87	29	61	48	2,523	490	5	1
100 - 249.9	21	3	15	5	3,058	449	6	1
250 - 499.9	10	4	7	7	2,909	1,436	5	2
500 - 999.9	8	5	5	8	5,339	4,010	10	7
1,000 and over	17	19	12	32	38,603	52,362	74	89
Total	143	60	100	100	52,432	58,747	100	100

Table 24—Cooperatives distributing selected dairy products, volume by size groups, and cooperative volume compared with total U.S. production, 1973 [1]

Product and co-op size group	Cooperatives distributing	Distributed by cooperatives [2]	Total U.S. production	Cooperative percent of total
	No.	*Million lb.*	*Million lb.*	*Pct.*
Bulk condensed milk:				
Less than 5 million pounds	22	45	—	—
5.0 to 9.9 million pounds	13	85	—	—
10 million pounds and over	6	122	—	—
Total	41	252	1,115	23
Frozen product mix:				
Less than 5 million pounds	29	31	—	—
5.0 to 9.9 million pounds	4	20	—	—
10 million pounds and over	15	370	—	—
Total	48	421	579	73
Condensed whey:				
Less than 5 million pounds	9	17	—	—
5.0 to 9.9 million pounds	—	—	—	—
10 million pounds and over	3	50	—	—
Total	12	67	174	38
Dry whey:				
Less than 5 million pounds	20	33	—	—
5.0 to 9.9 million pounds	4	25	—	—
10 million pounds and over	8	375	—	—
Total	32	433	772	56

[1] Cooperative data were tabulated by their headquarters locations.

[2] Adjusted for intercooperative transactions. Includes purchases from other sources.

Table 25—Share of grade A milk received from farmers, milk processed or manufactured, and selected product sales for largest dairy cooperatives, 1973

Item	Receipts of grade A milk [1]	Milk processed or manufactured	Cooperative sales			
			Packaged fluid milk	Butter	Dry milk products	Natural cheese
	Percent		Percent of all cooperative sales			
Share of total co-op volume:						
4 largest co-ops	38	34	35	54	53	40
8 largest co-ops	51	42	51	65	68	54
20 largest co-ops	67	59	75	79	85	74
			Percent of total U.S. production			
Share of total U.S. volume: [2]						
4 largest co-ops	31	10	4	34	46	13
8 largest co-ops	41	12	6	41	57	18
20 largest co-ops	54	17	9	51	72	25

[1] Grade A milk received from farmers.
[2] Adjusted to exclude intercooperative transactions.

NOTE: Groups of cooperatives may change from function to function.

Table 25—Share of grade A milk received from farmers, milk processed or manufactured, and selected product sales for largest dairy cooperatives, 1973

Item	Receipts of grade A milk [1]	Milk processed or manufactured	Cooperative sales: Packaged fluid milk	Cooperative sales: Butter	Cooperative sales: Dry milk products	Cooperative sales: Natural cheese
	Percent		*Percent of all cooperative sales*			
Share of total co-op volume:						
4 largest co-ops	34	40	35	54	53	40
8 largest co-ops	42	50	51	65	68	54
20 largest co-ops	59	70	75	79	85	74
			Percent of total U.S. production			
Share of total U.S. volume: [2]						
4 largest co-ops	10	18	4	34	46	13
8 largest co-ops	12	23	6	41	57	18
20 largest co-ops	17	32	9	51	72	25

[1] Grade A milk received from farmers.
[2] Adjusted to exclude intercooperative transactions.

NOTE: Groups of cooperatives may change from function to function.

Table 26—Proportion of cooperatives' total selected dairy products sold retail by region, 1973 [1]

Product	Co-ops reporting	Geographic region			
		Eastern	Central	Western	Total
	Number	*Percent*			
Fluid milk products	47	8.6	3.8	3.4	6.5
Butter	115	0.8	1.9	0.1	1.4
Natural cheese	47	0.4	1.1	0.9	1.0
Cottage cheese	30	3.0	1.4	0.7	1.9
Ice cream	24	0.9	0.3	0.1	0.5

[1] Data tabulated by cooperatives' headquarters locations.

Table 27—Comparison of cooperatives' own brand with their private label sales, 1973

Product	Co-ops reporting sale of branded products	Proportion of sales under co-op brand	Number of co-ops by proportion under own brand				Co-op brands	Private label brands
			Less than 33 pct.	34 - 66 pct.	67 - 99 pct.	100 pct.		
	Number	*Percent*	*Number*					
Packaged fluid milk	60	49	7	7	21	25	91	311
Dry milk products	34	24	8	4	4	18	30	61
Cottage cheese	32	29	8	1	7	16	38	61
Natural cheese	36	18	10	1	7	18	32	52
Butter	94	22	21	12	8	53	103	200
Ice cream	30	58	1	5	10	14	59	59
Condensed milk	5	4	2	1	1	1	3	37

FARMER COOPERATIVE SERVICE
U.S. DEPARTMENT OF AGRICULTURE

Farmer Cooperative Service provides research, management, and educational assistance to cooperatives to strengthen the economic position of farmers and other rural residents. It works directly with cooperative leaders and Federal and State agencies to improve organization, leadership, and operation of cooperatives and to give guidance to further development.

The Service (1) helps farmers and other rural residents obtain supplies and services at lower cost and to get better prices for products they sell; (2) advises rural residents on developing existing resources through cooperative action to enhance rural living; (3) helps cooperatives improve services and operating efficiency; (4) informs members, directors, employees, and the public on how cooperatives work and benefit their members and their communities; and (5) encourages international cooperative programs.

The Service publishes research and educational materials and issues *Farmer Cooperatives*. All programs and activities are conducted on a nondiscriminatory basis, without regard to race, creed, color, sex, or national origin.